

<b>AWARD/CONTRACT</b>		<b>1. This Contract Is A Rated Order Under DPAS (15 CFR 700)</b>		<b>Rating</b> DOA4		<b>Page</b> 1 <b>Of</b> 23	
<b>2. Contract (Proc. Inst. Ident) No.</b> W56HZV-04-C-0682		<b>3. Effective Date</b> 2004OCT15		<b>4. Requisition/Purchase Request/Project No.</b> SEE SCHEDULE			
<b>5. Issued By</b> TACOM WARREN AMSTA-AQ-ABGA JANET JOUDAS (586)574-7273 WARREN, MICHIGAN 48397-5000  HTTP://CONTRACTING.TACOM.ARMY.MIL  <b>e-mail address:</b> JOUDASJ@TACOM.ARMY.MIL		<b>Code</b> W56HZV		<b>6. Administered By (If Other Than Item 5)</b> DCMA GRAND RAPIDS RIVERVIEW CENTER BLDG 678 FRONT ST., NW GRAND RAPIDS, MI 49504-5352  <b>SCD</b> C <b>PAS</b> NONE <b>ADP</b> PT HQ0337		<b>Code</b> S2303A	
<b>7. Name And Address Of Contractor (No. Street, City, County, State, And Zip Code)</b> THERMOANALYTICS, INC. 23440 AIRPARK BLVD. P.O. BOX 66 CALUMET, MI. 49913-0066  TYPE BUSINESS: Other Small Business Performing in U.S.				<b>8. Delivery</b> <input type="checkbox"/> FOB Origin <input checked="" type="checkbox"/> Other (See Below) SEE SCHEDULE			
				<b>9. Discount For Prompt Payment</b>			
				<b>10. Submit Invoices (4 Copies Unless Otherwise Specified)</b>		<b>Item</b> 12	
<b>Code</b> 06NK7		<b>Facility Code</b>		<b>To The Address Shown In:</b>			
<b>11. Ship To/Mark For</b> SEE SCHEDULE		<b>Code</b>		<b>12. Payment Will Be Made By</b> DFAS - COLUMBUS CENTER DFAS-CO/NORTH ENTITLEMENT OPERATION P.O. BOX 182266 COLUMBUS OH 43218-2266		<b>Code</b> HQ0337	
<b>13. Authority For Using Other Than Full And Open Competition:</b> <input type="checkbox"/> 10 U.S.C. 2304(c)( ) <input type="checkbox"/> 41 U.S.C. 253(c)( )				<b>14. Accounting And Appropriation Data</b> ACRN: AA 21 42040000046N6N7EP665502255Y S20113 W56HZV			
<b>15A. Item No.</b> SEE SCHEDULE	<b>15B. Schedule Of Supplies/Services</b> CONTRACT TYPE: Cost-Plus-Fixed-Fee		<b>15C. Quantity</b>		<b>15D. Unit</b>	<b>15E. Unit Price</b>	<b>15F. Amount</b>
				KIND OF CONTRACT: Research and Development Contracts			
<b>15G. Total Amount Of Contract</b>						\$364,381.00	
<b>16. Table Of Contents</b>							
(X)	Section	Description	Page(s)	(X)	Section	Description	Page(s)
Part I - The Schedule				Part II - Contract Clauses			
X	A	Solicitation/Contract Form	1	X	I	Contract Clauses	15
X	B	Supplies or Services and Prices/Costs	2	Part III - List Of Documents, Exhibits, And Other Attachments			
X	C	Description/Specs./Work Statement	5	X	J	List of Attachments	23
X	D	Packaging and Marking	7	Part IV - Representations And Instructions			
X	E	Inspection and Acceptance	8		K	Representations, Certifications, and Other Statements of Offerors	
X	F	Deliveries or Performance	9				
X	G	Contract Administration Data	10		L	Instrs., Conds., and Notices to Offerors	
X	H	Special Contract Requirements	12		M	Evaluation Factors for Award	
Contracting Officer Will Complete Item 17 Or 18 As Applicable							
<b>17.</b> <input checked="" type="checkbox"/> Contractor's Negotiated Agreement (Contractor is required to sign this document and return 2 signed copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				<b>18.</b> <input type="checkbox"/> Award (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.			
<b>19A. Name And Title Of Signer (Type Or Print)</b>				<b>20A. Name Of Contracting Officer</b> DEREK MCALEER MCALEERD@TACOM.ARMY.MIL (586)574-7197			
<b>19B. Name of Contractor</b>  By _____ (Signature of person authorized to sign)		<b>19c. Date Signed</b>		<b>20B. United States Of America</b>  By _____ /SIGNED/ (Signature of Contracting Officer)		<b>20C. Date Signed</b> 2004OCT15	

Name of Offeror or Contractor: THERMOANALYTICS, INC.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	<p>SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS</p> <p><u>SERVICES LINE ITEM</u></p> <p>SECURITY CLASS: Unclassified</p> <p>Contractor shall furnish all the supplies and services to accomplish the task specified in Section C "Scope of Work"</p> <p>Est. Cost: \$687,510.80 Fixed Fee: \$ 41,250.64 Total Cost: \$728,761.44</p> <p>(End of narrative B001)</p>				
0001AA	<p><u>SERVICES LINE ITEM</u></p> <p>NOUN: FY05 PHII SBIR THERMOANLYTICS PRON: R342C539R3 PRON AMD: 01 ACRN: AA AMS CD: 665502M4055</p> <p><u>Inspection and Acceptance</u> INSPECTION: Destination ACCEPTANCE: Destination</p> <p><u>Deliveries or Performance</u> DLVR SCH PERF COMPL <u>REL CD</u> <u>QUANTITY</u> <u>DATE</u> 001 0 SEE SECTION F</p> <p>\$ 364,381.00</p>				\$ 364,381.00
0002	<p><u>DATA ITEM</u></p> <p>SECURITY CLASS: Unclassified</p> <p>Technical Data as set forth in Contract Data Requirements List (DD Form 1423) hereinafter referred to as Exhibit A.</p> <p>(End of narrative B001)</p>			\$ ** NSP **  Not Separately Priced	\$ ** NSP **

**Name of Offeror or Contractor:** THERMOANALYTICS, INC.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT

<b>CONTINUATION SHEET</b>	<b>Reference No. of Document Being Continued</b> <b>PIIN/SIIN</b> W56HZV-04-C-0682 <b>MOD/AMD</b>	<b>Page</b> 4 <b>of</b> 23
<b>Name of Offeror or Contractor:</b> THERMOANALYTICS, INC.		

B.1 Estimated Cost and Payment

B.1.1 The estimated cost for performance of the work required under this contract is set forth in Section B. In consideration of performance of the work specified under the contract the Government will pay the Contractor the Estimated Cost shown under CLIN 0001. This amount shall constitute the estimated cost for the purpose of the Contract Clause entitled LIMITATION OF FUNDS (Apr 1984), FAR 52.232-23, but neither the Government nor the Contractor guarantee the accuracy of said estimate.

B.1.2 The contractor will be paid the fixed fee stated in Section B under CLIN 0001 for the performance of work under the contract and in accordance with the terms of the Contract Clause entitled FIXED FEE (Mar 1997), FAR 52.216-8. The fixed fee together with the reimbursement of cost shall constitute full and complete consideration for the contractor's service in connection with the work required and performed under this contract.

B.1.3 Allowable cost shall be determined, and payment thereof shall be provided, in accordance with the Contract Clause entitled ALLOWABLE COST AND PAYMENT (Mar 2000), FAR 52.216-7.

B.2 Payment

The contractor may submit public vouchers every two weeks for payment under this contract. The fee will be payable at the time of reimbursement of cost at the same rate to such cost as the total fee of this contract bears to the total estimated cost thereof, subject to any withholding pursuant to provisions of this contract.

B.3 Funding

B.3.1 The Government shall provide funds under this contract covering the estimated cost and fee hereof on an incremental basis as provided for in the following funding schedule and pursuant to the Contract Clause entitled LIMITATION OF FUNDS. It is estimated that the incremental amounts are sufficient for the performance of work in each of cited periods. The Government may, at its discretion, allot such funds on an incremental basis within each fiscal year. The contractor shall so plan and execute the work required by this contract as to expend and/or commit funds compatible with the schedule set forth below. Whenever the contractor has reason to believe that the funds allotted to this contract for any fiscal year are either insufficient or excessive for the performance of work required in that fiscal year, the Government shall be so notified.

B.3.2 Funding Schedule

<u>Performance of Period</u>	<u>Amount</u>
Award	\$364,381.00
FY05	\$364,380.44

B.4 Funds Allotted. The amount of funds currently allotted to this contract is \$364,381.00.

CONTINUATION SHEET	Reference No. of Document Being Continued PIIN/SIIN W56HZV-04-C-0682 MOD/AMD	Page 5 of 23
--------------------	---	--------------

Name of Offeror or Contractor: THERMOANALYTICS, INC.

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT  
02070409020205020404 02070409020205020404 02070409020205020404 02070409020205020404C.1 SCOPE OF WORK

C.1.1 OBJECTIVE. The contractor, acting as an independent contractor and not as an agent of the government, shall provide the necessary personnel, facilities, materials, and services to complete the effort described below. The Contractor shall develop a vehicle thermal design tool capable of rapidly carrying vehicle designs through the phases of concept design, simulation, and analysis. The tool code shall focus on removing as much of the burden of CAD-to-thermal analysis as possible by reducing or eliminating the need for thermal meshing of geometry. Furthermore, the tool shall focus on the needs of the Future Combat System (FCS) and 21st Century Truck. The tool shall simulate hybrid electric drive trains (in addition to electric and conventional drive trains), both wheeled and tracked vehicles, surface and solid element thermal modeling, engine compartment cooling techniques, Bi-directional reflectance distribution function (BRDF) (e.g. reflection) modeling, camouflage pattern design, background and sensor modeling.

C.2. The Contractor shall accomplish the objectives, as described above, through the successful performance of the following tasks:

C.2.1 Boundary Element Method (BEM).  
The contractor shall develop the code for, implement, verify and validate the BEM for representing solid thermal objects within the Army thermal prediction code the Multi-Service Electro-optical Signature code (MuSES). The BEM implementation shall perform transient analyses, be integrated into the MuSES Graphical User Interface (GUI) and allow graphical post-processing of BEM results. The contractor shall also investigate the suitability of employing the BEM for solving fluid problems. The contractor shall submit a report on the investigation to the COTR for review and approval. Upon approval of the report, the contractor shall prepare a software development plan and develop the software.

C.2.2 Auto-Meshers.  
The contractor shall investigate auto-meshing for two-dimensional parametric descriptions of solid faces. The approaches considered may include the bubble-pack method, the quad-tree method, and the moving front method. The objective of this task is to produce a meshless thermal solution when combined with the BEM method implemented in task C.2.1. In other words, the analyst shall not be burdened with defining and recreating a thermal mesh, thus to the analyst, the technique is meshless. The contractor shall submit a report on the investigation to the COTR for review and approval. Upon approval, the contractor shall develop a software development plan and execute it.

C.2.3 Diagnostic and Quick Fix Tools.  
The contractor shall add diagnostic and mesh editing tools to MuSES for built-in evaluation and repair of common meshing and modeling problems. The tools developed shall diagnose and provide automated fixes where possible for models that include warped quadrilaterals, overlapping elements, disjoint meshes and faces that are designated insulated yet are visible to other radiating surfaces. The contractor shall also develop tools to delete elements, relocate vertices, create elements (including the ability to patch holes by filling the holes with elements), and re-mesh small areas these tools shall allow users to fix small meshing problems from within the MuSES GUI.

C.2.4 Support for Low-Quality Thermal Meshes.  
The contractor shall modify MuSES to support low-quality meshes as an alternative to fixing meshes using the tools developed in C.2.3. To accomplish this, the contractor shall modify the thermal and radiance solutions within MuSES to include support for warped quadrilateral elements, hanging nodes, disjoint meshes, and face-to-face conduction. The contractor shall also improve the robustness of the conduction calculation within MuSES to support skewed meshes and triangular elements.

C.2.5 Features to Reduce Modeling Time.  
The contractor shall add features to MuSES to significantly reduce modeling time and effort. To accomplish this, the contractor shall modify MuSES to include support for rotating parts, importing computational fluid dynamics (CFD) results on a per face-basis, interpolating between CFD results, applying camouflage patterns, and allowing transient restart on a per part basis.

C.2.6 Reduce View Factor Calculation Time.  
The contractor shall modify MuSES to allow the view factor calculation to be switched off for selected parts of a thermal model. The contractor shall also investigate other techniques to reduce view factor calculation time including the reuse of view factors on parts of the model that have not changed and automated view factor refinement. The contractor shall submit a report on the investigation to the COTR for review and approval. Upon approval, the contractor shall develop a software development plan and execute it.

C.2.7 High Performance Computing.  
The Contractor shall investigate the advantages of parallelization on high performance computers in both shared and distributed configurations. The Contractor shall investigate the METIS and the parallel version ParMETIS. software available through the Army High Performance Computing Resources Center (AHPCRC) in the event that meshing is still required. The Contractor shall review the research ongoing at the AHPCRC and investigate utilizing software toolkits and leveraging expertise at the AHPCRC.

C.2.8 Visualization.  
In order to achieve 3D visualization, the Contractor shall include the Visualization ToolKit (VTK) in outputting the imagery of MuSES.

<b>CONTINUATION SHEET</b>	<b>Reference No. of Document Being Continued</b> <b>PIIN/SIIN</b> W56HZV-04-C-0682 <b>MOD/AMD</b>	<b>Page</b> 6 <b>of</b> 23
<b>Name of Offeror or Contractor:</b> THERMOANALYTICS, INC.		

C.2.9 Continued interaction with scene renderers.

The Contractor shall ensure that the changes to the software maintain compatibility with the synthetic scene renderer CameoSim. The Contractor shall insert MuSES targets into CameoSim synthetic scenes and determine the quality of images using existing metrics or via metrics developed by the contractor. New metrics must be approved by the COTR for this purpose.

C.2.10 Validation and Testing.

The contractor shall fabricate test components for field validation trials and shall conduct field trials to validate the changes to MuSES. The test plan shall be developed in coordination with the COTR and the COTR shall be present during these field tests. The Contractor shall follow the guidance of the Defense Modeling and Simulation Office in documenting the verification and validation of the software.

C.2.10.1 The contractor shall provide test management and security management support for all validation field tests. The Government shall make available, at the field test site and at TACOM, office space and basic office equipment for this task.

C.2.11 Target Models. The contractor shall develop MuSES target models to be used in the proof of principle of this analysis tool. The MuSES TDF data files shall be prepared and delivered in accordance with Exhibit A, Contract Data Requirements List, Data Item No. A003.

C.3 Kickoff Meeting

C.3.1 The contractor shall coordinate with the COTR to set-up and host a kickoff meeting to be held at TACOM within fifteen days after contract award (or as otherwise mutually agreed upon by the Contractor and the Government COTR).

C.4 Other Deliverables

C.4.1 Software Delivery. The Contractor shall deliver the MuSES software (including source code) that will result from this entire effort at the end of the contract. It shall be delivered either via CDR or FTP (CDRL A003). Included with this delivery will be the Software Product Specification as required under the Contract Data Requirements List (DD Form 1423) and Data Item Description DI-IPSC-81442 (CDRL A004).

C.4.2 Report Deliverables. The contract shall provide the interim technical reports described in C.2.1, C.2.2, and C.2.4; the Final Technical Report (CDRL A001); and the Performance and Cost Report (CDRL A002) as required in the Contract Data Requirements List (DD Form 1423) and in accordance with the associated Data Item Description.

\*\*\* END OF NARRATIVE C 001 \*\*\*

CONTINUATION SHEET	Reference No. of Document Being Continued		Page 7 of 23
	PIIN/SIIN W56HZV-04-C-0682	MOD/AMD	
Name of Offeror or Contractor: THERMOANALYTICS, INC.			

SECTION D - PACKAGING AND MARKING

D.1 Packaging and Packing:

The Contractor shall package and pack all items deliverable under this Contract in accordance with standard commercial practice to assure arrival at destination without damage or loss.

D.2 Software Marking:

The Contractor shall mark all software delivered under this Contract with the software title, TACOM Contract number, the name and address of the prime Contractor, and the name and address of the Sub-Contractor (if any) which generated the software. The marking shall be in the format below for the prime Contractor or Subcontractor generated software as applicable.

Software Title:  
TACOM Contractor Number:  
Prime Contractor's Name:  
Prime Contractor's Address:  
Sub-Contractor's Name: (if applicable)  
Sub-Contractor's Address: (if applicable)

\*\*\* END OF NARRATIVE D 001 \*\*\*

CONTINUATION SHEET	Reference No. of Document Being Continued		Page 8 of 23
	PIIN/SIIN W56HZV-04-C-0682	MOD/AMD	

Name of Offeror or Contractor: THERMOANALYTICS, INC.

SECTION E - INSPECTION AND ACCEPTANCE

	Regulatory Cite	Title	Date
E-1	52.246-9	INSPECTION OF RESEARCH AND DEVELOPMENT (SHORT FORM)	APR/1984

E.1 Inspection and Acceptance

The Contracting Officer's Representative (COR) is responsible for the inspecting and accepting (or rejection) of all deliverables submitted by the Contractor to the Government, at destination, in accordance with the terms of the Contract.

\*\*\* END OF NARRATIVE E 001 \*\*\*



SECTION F - DELIVERIES OR PERFORMANCE

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
F-1	52.242-15	STOP WORK ORDER--(ALTERNATE I dated APR 1984)	AUG/1989
F-2	52.247-34	F.O.B. DESTINATION	NOV/1991

F.1 Technical Data/Software

F.1.1 The Contractor shall deliver/submit all data/software in accordance with Exhibit A, Contract Data Requirements List (CDRL), DD Form 1423.

F.2 Period of Performance

The Contract's period of performance shall be twenty-four (24) months from the date of contract award.

\*\*\* END OF NARRATIVE F 001 \*\*\*

<b>CONTINUATION SHEET</b>	<b>Reference No. of Document Being Continued</b> <b>PIIN/SIIN</b> W56HZV-04-C-0682 <b>MOD/AMD</b>	<b>Page 10 of 23</b>
<b>Name of Offeror or Contractor:</b> THERMOANALYTICS, INC.		

SECTION G - CONTRACT ADMINISTRATION DATA

LINE	PRON/ AMS CD/	OBLG ACRN STAT	ACCOUNTING CLASSIFICATION				JOB ORDER	ACCOUNTING	OBLIGATED
<u>ITEM</u>	<u>MIPR</u>	<u>ACRN</u> <u>STAT</u>	<u>ACCOUNTING CLASSIFICATION</u>				<u>NUMBER</u>	<u>STATION</u>	<u>AMOUNT</u>
0001AA	R342C539R3	AA 2	21 42040000046N6N7EP665502255Y S20113				42C539	W56HZV \$	364,381.00
	665502M4055								
								TOTAL \$	364,381.00

SERVICE <u>NAME</u>	<u>TOTAL BY ACRN</u>	<u>ACCOUNTING CLASSIFICATION</u>				<u>ACCOUNTING</u> <u>STATION</u>	<u>OBLIGATED</u> <u>AMOUNT</u>	
Army	AA	21 42040000046N6N7EP665502255Y S20113				W56HZV	\$ 364,381.00	
							TOTAL \$	
							364,381.00	

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
G-1	252.232-7003	ELECTRONIC SUBMISSION OF PAYMENT REQUESTS	JAN/2004
G-2	52.242-4016	COMMUNICATIONS	MAY/2000

(a) Communications on technical matters pertaining to the contract shall be direct between the contractor and the Technical Representative. Communications for the Technical Representative shall be addressed to:

Name: Terry Gonda  
e-mail: GondaT@tacom.army.mil

(b) The Administrative Contracting Officer's (ACO) name and email address are also provided if known at this time:

ACO: Marla Armstrong  
e-mail: Marla.Armstrong@dcma.mil

(c) Please see the appointment letters prepared at time of contract award for functions the Technical Representative and ACO will perform on this contract.

[End of Clause]

G-3	252.201-7000	CONTRACTING OFFICER'S REPRESENTATIVE	DEC/1991
-----	--------------	--------------------------------------	----------

(a) Definition. Contracting Officer's Representative means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

[End of Clause]

G-4	52.227-4004 (TACOM)	RELEASE OF INFORMATION	OCT/2003
-----	------------------------	------------------------	----------

The contractor shall ensure that he complies with the requirements of Chapter 5, page 22, paragraph 5-48, of AR 360-1, The Army Public Affairs Program, dated 15 Oct 2000, prior to contemplated release of any procurement information. Approval of the Contracting Officer is required prior to release of any such information. AR 360-1 may be found at [http://www.usapa.army.mil/pdffiles/r360\\_1.pdf](http://www.usapa.army.mil/pdffiles/r360_1.pdf) .

[End of clause]  
\*\*\*

CONTINUATION SHEET	Reference No. of Document Being Continued		Page 11 of 23
	PIIN/SIIN W56HZV-04-C-0682	MOD/AMD	

Name of Offeror or Contractor: THERMOANALYTICS, INC.

G-5	52.232-4005 (TACOM)	INVOICE INFORMATION REQUIREMENT	JAN/1988
-----	------------------------	---------------------------------	----------

On each payment request submitted, the Contractor shall identify each affected Contract Line Item Number (CLIN), sub-CLIN, and/or work directive, together with the related dollar amounts. This requirement does not diminish or restrict any other requirement of this contract.

\*\*\*

\* \* G.1 CONTRACTOR: SPECIAL BILLING INSTRUCTIONS: \* \*

G.1.1 The Contractor shall bill to the six-digit Sub-Line Item Number (SLIN) level and ACRN under the four-digit Contract Line Item Number (CLIN), see Section B, for which the work effort was performed.

G.1.2 If multiple SLINs exist on the same four-digit major CLIN, the Contractor shall determine which six-digit SLIN contains the oldest fiscal year money and invoice against the SLIN containing the oldest money, until fully billed.

G.1.3. To determine the fiscal year of funds, refer to the "Job Order Number" (JON) column that applies to ALL funding under the four digit CLIN, as shown in Section G Contract Administration Data. The first digit of the JON represents the fiscal year.

\* \* G.2 DFAS: SPECIAL PAYMENT INSTRUCTIONS: \* \*

DFAS will make payments as billed by the contractor.

\*\*\* END OF NARRATIVE G 001 \*\*\*

CONTINUATION SHEET	Reference No. of Document Being Continued	Page 12 of 23
	PIIN/SIIN W56HZV-04-C-0682MOD/AMD	
Name of Offeror or Contractor: THERMOANALYTICS, INC.		

SECTION H - SPECIAL CONTRACT REQUIREMENTS

	Regulatory Cite	Title	Date
H-1	252.204-7000	DISCLOSURE OF INFORMATION	DEC/1991
H-2	252.204-7002	PAYMENT FOR SUBLINE ITEMS NOT SEPARATELY PRICED	DEC/1991
H-3	252.205-7000	PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS	DEC/1991
H-4	252.225-7001	BUY AMERICAN ACT AND BALANCE OF PAYMENTS PROGRAM	APR/2003
H-5	252.225-7002	QUALIFYING COUNTRY SOURCES AS SUBCONTRACTORS	APR/2003
H-6	252.225-7004	REPORTING OF CONTRACT PERFORMANCE OUTSIDE THE UNITED STATES	APR/2003
H-7	252.225-7013	DUTY-FREE ENTRY	JAN/2004
H-8	252.226-7001	UTILIZATION OF INDIAN ORGANIZATIONS, INDIAN-OWNED ECONOMIC ENTERPRISES, AND NATIVE HAWAIIAN SMALL BUSINESS CONCERNS	OCT/2003
H-9	252.227-7037	VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA	SEP/1999
H-10	252.231-7000	SUPPLEMENTAL COST PRINCIPLES	DEC/1991
H-11	252.235-7011	FINAL SCIENTIFIC OR TECHNICAL REPORT	SEP/1999
H-12	252.246-7000	MATERIAL INSPECTION AND RECEIVING REPORT	MAR/2003
H-13	252.246-7001	WARRANTY OF DATA	DEC/1991

H-14	252.225-7003	REPORT OF INTENDED PERFORMANCE OUTSIDE THE UNITED STATES	APR/2003
(a) The offeror shall submit a Report of Contract Performance Outside the United States, with its offer, if-			
(1) The offer exceeds \$10 million in value; and			
(2) The offeror is aware that the offeror or a first-tier subcontractor intends to perform any part of the contract outside the United States and Canada that-			
(i) Exceeds \$500,000 in value; and			
(ii) Could be performed inside the United States or Canada.			
(b) Information to be reported includes that for-			
(1) Subcontracts;			
(2) Purchases; and			
(3) Intracompany transfers when transfers originate in a foreign location.			
(c) The offeror shall submit the report using-			
(1) DD Form 2139, Report of Contract Performance Outside the United States; or			
(2) A computer-generated report that contains all information required by DD Form 2139.			
(d) The offeror may obtain a copy of DD Form 2139 from the Contracting Officer.			
(End of provision)			

H-15	252.227-7039	PATENTS -- REPORTING OF SUBJECT INVENTIONS	APR/1990
The Contractor shall furnish the Contracting Officer the following:			
(a) Interim reports every twelve (12) months (or such longer period as may be specified by the Contracting Officer) from the date of the contract, listing subject inventions during that period and stating that all subject inventions have been disclosed or that there are no such inventions.			
(b) A final report, within three (3) months after completion of the contracted work, listing all subject inventions or stating that there were no such inventions.			
(c) Upon request, the filing date, serial number and title, a copy of the patent application and patent number, and issue data for any subject invention for which the Contractor has retained title.			
(d) Upon request, the Contractor shall furnish the Government an irrevocable power to inspect and make copies of the patent application file.			
(End of clause)			

H-16	52.204-4005	REQUIRED USE OF ELECTRONIC CONTRACTING	SEP/2004
(a) All contract awards, modifications and delivery orders issued by TACOM will be issued electronically. The contractor has the option to receive these actions either via the Worldwide Web (WWW) or Electronic Data Interchange (EDI). Many provisions/clauses that appear "by reference", meaning only clause titles and regulation site are listed; their full texts can be found at the website <a href="http://farsite.hill.af.mil/">http://farsite.hill.af.mil/</a>			

(b) In order to be eligible to receive an award under this solicitation, the successful offeror must be registered with the Department of Defense (DOD) Central Contractor Registration (CCR). The CCR registration process may be done electronically at the World

<b>CONTINUATION SHEET</b>	<b>Reference No. of Document Being Continued</b>  <b>PIIN/SIIN</b> W56HZV-04-C-0682 <b>MOD/AMD</b>	<b>Page 13 of 23</b>
---------------------------	--	----------------------

**Name of Offeror or Contractor:** THERMOANALYTICS, INC.

Wide Web (WWW) site: <http://www.ccr.gov/> . (In order to be registered to use EDI, you must use the long form for registration. Certification information, including information on the EDI 838 TPP, must be furnished to the Contracting Officer within 60 calendar days after contract award to complete networking requirements within the Government.)

(c) Worldwide Web Distribution. The contractor will receive an electronic Notice of the Award, Modification, or Delivery Order via e-mail. If you choose the WWW option, you must download the file from the appropriate TACOM webpage:

Warren: <http://contracting.tacom.army.mil/awd.htm>  
Rock Island: <http://aaais.ria.army.mil/AAIS/AWDINFO/index.htm>  
Picatinny: <http://procnet.pica.army.mil/dbi/DynCBD/award.cfm>  
Red River Army Depot: <http://www.redriver.army.mil/contracting/Awards>  
Anniston Army Depot: <http://www.anadprocnet.army.mil/>

(d) Electronic Data Interchange. If you choose to receive contract awards, modifications and delivery orders through EDI, they will be delivered electronically via the Federal Acquisition Network (FACNET). Federal Standard Version 3050 of Standard X12 from the American National Standards Institute (ANSI) will be used as the format for these electronic transactions.

(1) You must complete the EDI 838 Trading Partner Profile, and must agree (i) to subcontract with a DoD certified VAN or Value Added Service (VAS) provider, or (ii) to become DoD certified as a Value Added Network (VAN). The EDI 838 Training Partner Profile is contained in the basic CCR registration form and includes portions of the registration form which are titled "Optional".

(2) You must select a VAN from the official DoD approved list. DoD Certified VANs are listed at <http://www.acq.osd.mil/dpap/ebiz/VANs.htm> . If your VAN is later removed from the official list, or if you voluntarily drop your initially selected VAN, then you must switch to a VAN that remains on the official DoD approved list. You must maintain an active account on a DoD approved VAN for the entire duration of the contract, beginning no later than the 60th day after award.

(e) Unless otherwise specified elsewhere in the contract, all data items you are required to provide under this contract must be submitted electronically. Please go to the following webpage for detailed information about submitting your offer electronically: <http://contracting.tacom.army.mil/ebidnotice.htm>

(f) Additional information can be obtained by sending a message to: [acqcenweb@tacom.army.mil](mailto:acqcenweb@tacom.army.mil) or by calling (586) 574-7059.

[End of Clause]

H-17	52.216-4008	STATUS OF FUNDS ON COST REIMBURSEMENT CONTRACTS/CLINS	JUN/1989
	(TACOM)		

(a) The Contractor shall review the funding as it relates to work performed on the cost-reimbursement Contract Line Item Numbers (CLINs) under this contract and shall provide to the Procuring Contracting Officer (PCO) a written determination of what, if any, funds are excess to requirements (leaving a reasonable amount for final overhead rate negotiations and other reasonably predicted requirements) and are available for deobligation. This review shall be coordinated with the Administrative Contracting Officer (ACO), and the written determination shall be accomplished within 120 days of completion of performance under the CLIN. The report shall be prepared in terms of dollars available per Purchase Request Order Number (PRON), unless requested otherwise by the PCO.

(b) This report may be requested in writing by the PCO on additional occasions during the course of performance of work on cost-reimbursable CLINs contained in this contract. On such occasions, the written report shall be provided to the PCO within 14 days of Contractor receipt of the written request.

(End of clause)

H-18	52.246-4026	LOCAL ADDRESSES FOR DD FORM 250	JAN/2002
	(TACOM)		

(a) The contractor must provide a copy of each Material Inspection and Receiving Report (DD 250) pertaining to this contract, to the addresses given below, using either of the following methods:

(1) Our first preference is for you to use electronic mail (e-mail), using the following e-mail address: [DD250@tacom.army.mil](mailto:DD250@tacom.army.mil)

(2) Our second preference is for you to use data facsimile (datafax) transmission, using this fax number: (586) 574-5527 and use "DD250 mailbox" in the "to:" block of your fax cover or header sheet.

In either method, do not mix DD250s from more than one contract in a single transmission. That is, you may submit multiple DD250s in a single transmission, but they must all be against the same contract.

<b>CONTINUATION SHEET</b>	<b>Reference No. of Document Being Continued</b> <b>PIIN/SIIN</b> W56HZV-04-C-0682 <b>MOD/AMD</b>	<b>Page</b> 14 <b>of</b> 23
<b>Name of Offeror or Contractor:</b> THERMOANALYTICS, INC.		

(b) These copies meet the requirements for the Purchasing Office copy and the Army Inventory Control Manager copy listed in tables 1 and 2 of DFARS Appendix F.

(c) The DD250 form may be found, in three different formats, on the World Wide Web at <http://web1.whs.osd.mil/icdhome/DD-0999.htm>

[End of Clause]

CONTINUATION SHEET	Reference No. of Document Being Continued		Page 15 of 23
	PIIN/SIIN W56HZV-04-C-0682	MOD/AMD	

Name of Offeror or Contractor: THERMOANALYTICS, INC.

SECTION I - CONTRACT CLAUSES

	Regulatory Cite	Title	Date
I-1	52.202-1	DEFINITIONS	JUL/2004
I-2	52.203-3	GRATUITIES	APR/1984
I-3	52.203-5	COVENANT AGAINST CONTINGENT FEES	APR/1984
I-4	52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	JUL/1995
I-5	52.203-7	ANTI-KICKBACK PROCEDURES	JUL/1995
I-6	52.203-8	CANCELLATION, RESCISSION AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	JAN/1997
I-7	52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	JAN/1997
I-8	52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	JUN/2003
I-9	52.204-4	PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER	AUG/2000
I-10	52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	JUL/1995
I-11	52.211-5	MATERIAL REQUIREMENTS	AUG/2000
I-12	52.211-15	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS	SEP/1990
I-13	52.215-2	AUDIT AND RECORDS - NEGOTIATIONS	JUN/1999
I-14	52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT/1997
I-15	52.215-10	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA	OCT/1997
I-16	52.215-12	SUBCONTRACTOR COST OR PRICING DATA	OCT/1997
I-17	52.215-14	INTEGRITY OF UNIT PRICES (ALTERNATE I, (OCT 1997))	OCT/1997
I-18	52.215-15	PENSION ADJUSTMENTS AND ASSET REVERSIONS	JAN/2004
I-19	52.215-18	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS	OCT/1997
I-20	52.215-19	NOTIFICATION OF OWNERSHIP CHANGES	OCT/1997
I-21	52.216-7	ALLOWABLE COST AND PAYMENT	DEC/2002
I-22	52.216-8	FIXED FEE	MAR/1997
I-23	52.219-6	NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE	JUN/2003
I-24	52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS	MAY/2004
I-25	52.219-14	LIMITATIONS ON SUBCONTRACTING	DEC/1996
I-26	52.222-1	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES	FEB/1997
I-27	52.222-4	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--OVERTIME COMPENSATION	SEP/2000
I-28	52.222-19	CHILD LABOR--COOPERATION WITH AUTHORITIES AND REMEDIES	JUN/2004
I-29	52.222-20	WALSH-HEALEY PUBLIC CONTRACTS ACT	DEC/1996
I-30	52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB/1999
I-31	52.222-26	EQUAL OPPORTUNITY	APR/2002
I-32	52.222-35	AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA	DEC/2001
I-33	52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	JUN/1998
I-34	52.222-37	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	DEC/2001
I-35	52.223-6	DRUG FREE WORKPLACE	MAY/2001
I-36	52.223-14	TOXIC CHEMICAL RELEASE REPORTING	AUG/2003
I-37	52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JAN/2004
I-38	52.227-1	AUTHORIZATION AND CONSENT (ALTERNATE I dated April 1984)	JUL/1995
I-39	52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	AUG/1996
I-40	52.227-11	PATENT RIGHTS--RETENTION BY THE CONTRACTOR (SHORT FORM)	JUN/1997
I-41	52.228-7	INSURANCE--LIABILITY TO THIRD PERSONS	MAR/1996
I-42	52.232-9	LIMITATION ON WITHHOLDING OF PAYMENTS	APR/1984
I-43	52.232-17	INTEREST	JUN/1996
I-44	52.232-22	LIMITATION OF FUNDS	APR/1984
I-45	52.232-23	ASSIGNMENT OF CLAIMS	JAN/1986
I-46	52.232-25	PROMPT PAYMENT	OCT/2003
I-47	52.232-33	PAYMENT BY ELECTRONIC FUNDS TRANSFER--CENTRAL CONTRACTOR REGISTRATION	OCT/2003
I-48	52.233-1	DISPUTES	JUL/2002
I-49	52.233-3	PROTEST AFTER AWARD -- (ALTERNATE I, dated JUN 1985)	AUG/1996
I-50	52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR/1984
I-51	52.242-3	PENALTIES FOR UNALLOWABLE COSTS	MAY/2001
I-52	52.242-4	CERTIFICATION OF INDIRECT COSTS	JAN/1997
I-53	52.242-13	BANKRUPTCY	JUL/1995
I-54	52.243-2	CHANGES--COST-REIMBURSEMENT (ALTERNATE V, dated April 1984))	AUG/1987
I-55	52.244-2	SUBCONTRACTS (ALT I--AUG 1998)	AUG/1998
I-56	52.244-5	COMPETITION IN SUBCONTRACTING	DEC/1996
I-57	52.245-5	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-	MAY/2004

CONTINUATION SHEET	Reference No. of Document Being Continued PIIN/SIIN W56HZV-04-C-0682 MOD/AMD	Page 16 of 23
--------------------	---	---------------

Name of Offeror or Contractor: THERMOANALYTICS, INC.

	Regulatory Cite	Title	Date
		HOOR CONTRACTS) (Deviation, per DAR Tracking Number 99-00008, 13 July 99)	
I-58	52.246-23	LIMITATION OF LIABILITY	FEB/1997
I-59	52.249-6	TERMINATION (COST-REIMBURSEMENT)	MAY/2004
I-60	52.249-14	EXCUSABLE DELAYS	APR/1984
I-61	52.253-1	COMPUTER GENERATED FORMS	JAN/1991
I-62	252.203-7001	PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE CONTRACT-RELATED FELONIES	MAR/1999
I-63	252.204-7003	CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT	APR/1992
I-64	252.209-7000	ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ON-SITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY	NOV/1995
I-65	252.209-7004	SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY per DoD interim rule, Federal Register 27 Mar 98	MAR/1998
I-66	252.211-7005	SUBSTITUTIONS FOR MILITARY OR FEDERAL SPECIFICATIONS AND STANDARDS	FEB/2003
I-67	252.215-7000	PRICING ADJUSTMENTS	DEC/1991
I-68	252.215-7002	COST ESTIMATING SYSTEM REQUIREMENTS	OCT/1998
I-69	252.225-7012	PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES	JUN/2004
I-70	252.225-7014	PREFERENCE FOR DOMESTIC SPECIALTY METALS (ALT 1)	APR/2003
I-71	252.225-7016	RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS	MAY/2004
I-72	252.225-7025	RESTRICTION ON ACQUISITION OF FORGINGS	APR/2003
I-73	252.225-7031	SECONDARY ARAB BOYCOTT OF ISRAEL	APR/2003
I-74	252.227-7016	RIGHTS IN BID OR PROPOSAL INFORMATION	JUN/1995
I-75	252.227-7017	IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS	JUN/1995
I-76	252.227-7018	RIGHTS IN NONCOMMERCIAL TECHNICAL DATA AND COMPUTER SOFTWARE-- SMALL BUSINESS INNOVATIVE RESEARCH (SBIR) PROGRAM	JUN/1995
I-77	252.227-7019	VALIDATION OF ASSERTED RESTRICTIONS--COMPUTER SOFTWARE	JUN/1995
I-78	252.227-7030	TECHNICAL DATA--WITHHOLDING OF PAYMENT	MAR/2000
I-79	252.227-7034	PATENTS--SUBCONTRACTS	APR/1984
I-80	252.243-7002	REQUESTS FOR EQUITABLE ADJUSTMENT	MAR/1998
I-81	252.244-7000	SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (DoD CONTRACTS)	MAR/2000

I-82 52.222-2 PAYMENT FOR OVERTIME PREMIUMS JUL/1990

(a) The use of overtime is authorized under this contract if the overtime premium cost does not exceed zero or the overtime premium is paid for work--

- (1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdown of production equipment, or occasional production bottlenecks of a sporadic nature;
- (2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;
- (3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances, and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise; or
- (4) That will result in lower overall costs to the Government.

(b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all estimated overtime for contract completion and shall--

- (1) Identify the work unit; e.g., department or section in which the requested overtime will be used, together with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;
- (2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;
- (3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and
- (4) Provide reasons why the required work cannot be performed by using multishift operations or by employing additional personnel.

(End of clause)

I-83 52.204-7 CENTRAL CONTRACTOR REGISTRATION OCT/2003

(a) Definitions. As used in this clause--

"Central Contractor Registration (CCR) database" means the primary Government repository for contractor information required for the conduct of business with the Government.



<p style="text-align: center;"><b>CONTINUATION SHEET</b></p>	<p style="text-align: center;"><b>Reference No. of Document Being Continued</b></p> <p style="text-align: center;">PIIN/SIIN W56HZV-04-C-0682      MOD/AMD</p>	<p style="text-align: center;"><b>Page 17 of 23</b></p>
--	--	---

**Name of Offeror or Contractor:** THERMOANALYTICS, INC.

"Commercial and Government Entity (CAGE) code" means-

- (1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or
- (2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an "NCAGE code."

"Data Universal Numbering System (DUNS) number" means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

"Data Universal Numbering System +4 (DUNS+4) number" means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

"Registered in the CCR database" means that-

- (1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;
- (2) The Contractor's CAGE code is in the CCR database; and
- (3) The Government has validated all mandatory data fields and has marked the records "Active."

(b)

- (1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.
- (2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation DUNS or DUNS+4 followed by the DUNS or DUNS+4 number that identifies the offerors name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

- (1) An offeror may obtain a DUNS number
  - (i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com/> ; or
  - (ii) If located outside the United States, by contacting the local Dun and Bradstreet office.
- (2) The offeror should be prepared to provide the following information:
  - (i) Company legal business name.
  - (ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.
  - (iii) Company physical street address, city, state and Zip Code.
  - (iv) Company mailing address, city, state and Zip Code (if separate from physical).
  - (v) Company telephone number.
  - (vi) Date the company was started.
  - (vii) Number of employees at your location.
  - (viii) Chief executive officer/key manager.
  - (ix) Line of business (industry).
  - (x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Governments reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

- (1)
  - (i) If a Contractor has legally changed its business name, doing business as name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business days written notification of its intention to:
    - (A) Change the name in the CCR database;
    - (B) Comply with the requirements of Subpart 42.12 of the FAR;
    - (C) Agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.
  - (ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the Suspension of Payment paragraph of the electronic funds transfer (EFT) clause of this contract.
- (2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of

<b>CONTINUATION SHEET</b>	<b>Reference No. of Document Being Continued</b>  <b>PIIN/SIIN</b> W56HZV-04-C-0682 <b>MOD/AMD</b>	<b>Page 18 of 23</b>
---------------------------	--	----------------------

**Name of Offeror or Contractor:** THERMOANALYTICS, INC.

Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractors CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the Suspension of payment paragraph of the EFT clause of this contract.

(g) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the Internet at <http://www.ccr.gov/> or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

I-84      52.223-11      OZONE-DEPLETING SUBSTANCES      MAY/2001

(a) Definition. Ozone-depleting substance, as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR part 82 as--

(1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or

(2) Class II, including but not limited to, hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j(b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

WARNING: Contains (or manufactured with, if applicable) \_\_\_\_\_ \* \_\_\_\_\_, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

\*The Contractor shall insert the name of the substance(s).

[End of Clause]

I-85      52.244-6      SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS      JUL/2004

(a) Definitions. As used in this clause--

(1) "Commercial item" has the meaning contained in Federal Acquisition Regulation 2.101, Definitions.

(2) "Subcontract," as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c)

(1) The contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (May 2004)(15U.S.C. 637(d)(2) and (3)), in all subcontracts that offer subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (APR 2002)(E.O. 11246);

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Dec 2001) (38 U.S.C. 4212(a));

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998)(29 U.S.C. 793);

(v) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631) (flow down required in accordance with paragraph (d) of FAR clause 52.247-64).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimum number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

CONTINUATION SHEET	Reference No. of Document Being Continued PIIN/SIIN W56HZV-04-C-0682 MOD/AMD	Page 19 of 23
Name of Offeror or Contractor: THERMOANALYTICS, INC.		

[End of Clause]

I-86 52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES APR/1984

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of (DEVIATION) after the date of the clause.

(b) The use in this solicitation or contract of any DoD FAR Supplement (DFARS) (48 CFR 2) clause with an authorized deviation is indicated by the addition of (DEVIATION) after the name of the regulation.

[End of Clause]

I-87 252.204-7004 ALTERNATE A NOV/2003

As prescribed in 204.1104, substitute the following paragraph (a) for paragraph (a) of the clause at FAR 52.204-7:

(a) Definitions. As used in this clause--

"Central Contractor Registration (CCR) database" means the primary Government repository for contractor information required for the conduct of business with the Government.

"Commercial and Government Entity (CAGE) code" means--

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an "NCAGE code."

"Data Universal Numbering System (DUNS) number" means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

"Data Universal Numbering System +4 (DUNS+4) number" means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

"Registered in the CCR database" means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records "Active."

[End of Clause]

I-88 252.225-7015 RESTRICTION ON ACQUISITION OF HAND OR MEASURING TOOLS APR/2003  
Hand or measuring tools delivered under this contract shall be produced in the United States or its possessions.

(End of clause)

I-89 252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA MAY/2002

(a) Definitions. As used in this clause--

(1) Components means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

<b>CONTINUATION SHEET</b>	<b>Reference No. of Document Being Continued</b> <b>PIIN/SIIN</b> W56HZV-04-C-0682 <b>MOD/AMD</b>	<b>Page 20 of 23</b>
<b>Name of Offeror or Contractor:</b> THERMOANALYTICS, INC.		

(2) Department of Defense (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) Foreign flag vessel means any vessel that is not a U.S.-flag vessel.

(4) Ocean transportation means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) Subcontractor means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract. However, effective May 1, 1996, the term does not include a supplier, materialman, distributor, or vendor of commercial items or commercial components.

(6) Supplies means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) Supplies includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) U.S.-flag vessel means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)

(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if-

(i) This contract is a construction contract; or

(ii) The supplies being transported are-

(A) Noncommercial items; or

(B) Commercial items that-

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that--

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum--

(1) Type, weight, and cube of cargo;

CONTINUATION SHEET	Reference No. of Document Being Continued	Page 21 of 23
	PIIN/SIIN W56HZV-04-C-0682MOD/AMD	
Name of Offeror or Contractor: THERMOANALYTICS, INC.		

- (2) Required shipping date;
- (3) Special handling and discharge requirements;
- (4) Loading and discharge points;
- (5) Name of shipper and consignee;
- (6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information--

- (1) Prime contract number;
- (2) Name of vessel;
- (3) Vessel flag of registry;
- (4) Date of loading;
- (5) Port of loading;
- (6) Port of final discharge;
- (7) Description of commodity;
- (8) Gross weight in pounds and cubic feet if available;
- (9) Total ocean freight in U.S. dollars; and
- (10) Name of the steamship company.

(f) The Contractor shall provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

- (1) No ocean transportation was used in the performance of this contract;
- (2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;
- (3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or

(4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM	CONTRACT		
DESCRIPTION	LINE ITEMS	QUANTITY	TOTAL

(g) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) In the award of subcontracts for the types of supplies described in paragraph (b)(2) of this clause, the Contractor shall flow down the requirements of this clause as follows:

(1) The Contractor shall insert the substance of this clause, including this paragraph (h) in all subcontracts that exceed the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation.

<b>CONTINUATION SHEET</b>	<b>Reference No. of Document Being Continued</b>  <b>PIIN/SIIN</b> W56HZV-04-C-0682 <b>MOD/AMD</b>	<b>Page 22 of 23</b>
<b>Name of Offeror or Contractor:</b> THERMOANALYTICS, INC.		

(2) The Contractor shall insert the substance of paragraphs (a) through (e) of this clause, and this paragraph (h), in subcontracts that are at or below the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation.

[End of Clause]

I-90      252.247-7024      NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA      MAR/2000

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor--

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause, including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties

(1) In all subcontracts hereunder, if this contract is a construction contract; or

(2) If this contract is not a construction contract, in all subcontracts under this contract that are for--

(i) Noncommercial items; or

(ii) Commercial items that--

(A) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(B) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(C) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

[End of Clause]

I-91      52.204-4009      MANDATORY USE OF CONTRACTOR TO GOVERNMENT ELECTRONIC COMMUNICATION      JUN/1999  
(TACOM)

(a) All references in the contract to the submission of written documentation shall mean electronic submission. All electronic submissions shall be in the formats and media described in the "Electronic Quotations/Offers/Bids Required in Response to this Request for Quotations/Proposals/Bids" clause elsewhere in this document. (See Section K for commercial acquisitions, Section L for RFPs, and Section I for RFQs.)

(b) This shall include all written unclassified communications between the Government and the Contractor except contract awards and contract modifications which shall be posted on the internet. Return receipt shall be used if a commercial application is available. Classified information shall be handled in full accordance with the appropriate security requirements.

(c) In order to be contractually binding, all Government communications requiring a Contracting Officer signature must be sent from the Contracting Officer's e-mail address. The Contractor shall designate the personnel with signature authority who can contractually bind the contractor. All binding contractor communication shall be sent from this contractor e-mail address(es).

(d) Upon award, the Contractor shall provide the Contracting Officer with a list of e-mail addresses for all administrative and technical personnel assigned to this contract.

(e) Unless exempted by the Procuring Contracting Officer in writing, all unclassified written communication after contract award shall be transmitted electronically.

[End of Clause]

CONTINUATION SHEET	Reference No. of Document Being Continued PIIN/SIIN W56HZV-04-C-0682 MOD/AMD	Page 23 of 23
Name of Offeror or Contractor: THERMOANALYTICS, INC.		

SECTION J - LIST OF ATTACHMENTS

<u>Exhibit</u>	<u>Title</u>	Number <u>of Pages</u>
A	Contract Data Requirement List (DD Form 1423)	003
B	Data Item Descriptions (DIDs)	007

\*\*\* END OF NARRATIVE J 001 \*\*\*